

LUBENETS, P.A., doktor sel'skokhozyaystvennykh nauk; TVERDOKHLEB, N.S.,
agronom.

Cultivation practices for perennial grasses on the "Kuban" State
(MLRA 9:8)
Farm. Zemledelie 4 no.5:23-27 My '56.
(Gul'kevichi District--Grasses)

TVERDOKHLEB, P.Ye. (Novosibirsk)

Set of components for idealized models of analog-to-digital converters. Avtometriia no.2:43-52 '65.

(MIRA 13:9)

ACC NR: AP6026457

SOURCE CODE: UR/0410/66/000/002/0090/0098

AUTHOR: Korshever, I. I. (Novosibirsk-Leningrad); Smolov, V. B. (Novosibirsk-Leningrad); Tverdokhleb, P. Ye. (Novosibirsk-Leningrad); Fomichev, V. S. (Novosibirsk-Leningrad)

ORG: none

TITLE: One possibility for construction of digital analog functional converters

SOURCE: Avtometriya, no. 2, 1966, 90-98

TOPIC TAGS: digital analog converter, circuit design, mathematic analysis

ABSTRACT: A method is described for the construction of digital-analog functional converters based on preliminary expansion of the function into a series by Walsh functions. It is shown that the elements of the digital-analog converter are interpreted easily by the category of this expansion. Examples are presented of the realization of some digital-analog functional converters. The limitations within which the application of this method will give a gain in comparison with known methods are determined. The advantages of converters constructed using Walsh function expansion are simplicity of the analog portion of the circuit and the constant output impedance of the analog portion of the circuit, which allows them to be used with any load without disrupting the nature of the dependence reproduced. Orig. art. has:

2 tables, 7 formulas, and 4 figures.

SUB CODE: 09,12/ SUBM DATE: 27Nov65/ ORIG REF: 003

UDC: 681.142.621

Card 1/1

ACC NR: AM6004772

Monograph

UR/

Karandeyev, Konstantin Borisovich; Karpyuk, Bogdan Vladimirovich; Kasperovich, Aleksandr Nikolayevich; Pushnay, Boris Mikhaylovich; Rabinovich Vladimir Izrailevich; Sinitsyn, Boris Sergeyevich; Tverdokhleb, Petr YEmel'yanovich; TSapenko, Mikhail Petrovich

Electrical methods of automatic control (Elektricheskiye metody avtomaticheskogo kontrolya) Moscow, Izd-vo "Energiya", 1965. 383 p. illus., biblio. 10,000 copies printed

TOPIC TAGS: automatic control design, automatic control equipment, data processing

PURPOSE AND COVERAGE: The book, written by staff members of the Institute of Automation and Electrometry of the Siberian Department of the Academy of Sciences SSSR, deals with electric automatic control systems, their structure, and their principal elements and characteristics. The emphasis is on the relation between production quality control and automatic inspection of the manufactured products, and emphasizes statistical methods, automatization of various measurements, and the handling of the information and data generated by the automatic control devices. Different systems, components, and individual control and measurement equipment are also described.

Chapter 1 was written by K. B. Karandeyev, B. V. Karpyuk, A. N. Kasperovich, V. I. Rabinovich, P. YE. Tverdokhleb, and M. P. TSapenko, Ch. 3 by V. I. Rabinovich and M. P. TSapenko, Ch. 4 by B. S. Sinitsyn, Chs. 5 and 6 mainly by B. V. Karpyuk, Chs. 7 and 8 by A. N. Kasperovich, Ch. 9 by B. M. Pushnay, Chs. 11 and 12 mainly by P. E. Tverdokhleb, and the appendix by B. V. Karpyuk. Authors thank the scientific workers

Card 1/3

UDC: 621.317

ACC NR. AM6004772

V. M. YEfimov and G. G. Matushkin who wrote the main material of Chs. 2 and 10 respectively; and also to the scientific staff members M. A. Rozov, G. A. SHtamberger, G. YE. Yeremenchuk, YU. I. Baklanov, and others for supplying some data and for a discussion of individual problems considered in the book. They also thank L. YE. Pinchuk for participating in the preparation of the manuscript.

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ACC NR: AM6004772

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SUB CODE: 13/ SUBM DATE: 30Jun65/ ORIG REF: 198/ OTM REF: 066

Card 3/3

L 06557-67	EWT(d)/EMP(1)	IJP(c)	GO/BB	SOURCE CODE: UR/0410/65/000/002/0043/0052
ACC NR: AP6015234	(N)			
AUTHOR: <u>Tverdokhleb, P. Ye. (Novosibirsk)</u>				
ORG: none				
TITLE: <u>The selection of components for idealized models of analog-to-digital converters</u>				
SOURCE: <u>Avtometriya, no. 2, 1965, 43-52</u>				
TOPIC TAGS: <u>analog digital converter, computer component</u>				
ABSTRACT: A generalized analog-to-digital converter model was developed which is applicable to the analysis of a large class of such converters. The model was analyzed by congruence of the sets of components; it was assumed that quantization and numeric coding of the measured values occur during the measurement process. Four major sets of parameters which quantitatively define the developed simulator model are defined; one of the parameters simultaneously defines the number of scale graduations of the analog, and the number of lines of the matrix, and thus the number of states of the model. The developed concepts of structural and functional evaluation of simulator models can be used in the quantitative evaluation of the complexity of various classes of analog-to-digital converters. The authors thank Doctor of technical sciences <u>M. P. Tsapenko</u> and Candidates of technical sciences <u>A. N. Kasperovich</u> and <u>B. V. Karpyuk</u> for their com-				
Card 1/2 UDC: 681.2.082+621.317.08				

L 06557-67

ACC NR: AP6015234

ments throughout the preparation of this paper. Orig. art. has: 3 figures, 15 formulas.

SUB CODE: 09/ SUBM DATE: 23Sep64/ ORIG REF: 004/ OTH REF: 001

Card 2/2 M/S

KARANDEYEV, Konstantin Borisovich; KARPYUK, Bogdan Vladimirovich;
KASPEROVICH, Aleksandr Nikolayevich; PUSHNOY, Boris
Mikhaylovich; RABINOVICH, Vladimir Izrailevich; SINITSYN,
Boris Sergeyevich; TVERDOKHLEB, Petr Yemel'yanovich;
TSAPENKO, Mikhail Petrovich; Prinimal'nye sredstva upravleniya, AEROMOV,
V.M., nauchn.sotr.; MATUSHKIN, G.G., nauchn.sotr.

[Electrical methods in automatic control] Elektricheskie
metody avtomaticheskogo kontrolia. Moskva, Energiia,
1965. 383 p. (MIRA 18:8)

"APPROVED FOR RELEASE: 04/03/2001

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CIA-RDP86-00513R001757620020-1"

ACC NR: AP7003845

(A)

SOURCE CODE: UR/0122/67/000/001/0045/0047

AUTHORS: Tverdokhleb, V. G. (Engineer); Kuz'min, N. P. (Candidate of technical sciences, Docent)

ORG: none

TITLE: Slip bearings of AST-T plastic and of its compositions

SOURCE: Vestnik mashinostroyeniya, no. 1, 1967, 45-47

TOPIC TAGS: bearing material, antifriction bearing, wear resistance, friction coefficient, plastic, bronze/ AST-T plastic, Br. OTsS 6-6-3 bronze

ABSTRACT: The results of tests of slip bearings with bushings of AST-T plastic are discussed. The bearings operated in oil on a test bench with three working friction sections. The AST-T plastic contained fillers of S-1 colloidal graphite, barium sulfate, zinc oxide, and talc. For comparison, bushings of Br. OTsS 6-6-3 bronze were also studied. It was found that increasing the filler content above 5--10% caused practically no improvement in the antifriction properties of the bushings (see Fig. 1). The wear resistance and bearing capacity of the AST-T bearings applied to the GA-301 pump were tested. The resistance of AST-T was found to be 1.64 times greater than that of capron. After 1200 hrs of operation in oil, the bearing capacity of the AST-T bearings was no less than that of the capron and bronze ones.

Card 1/2

UDC: 621.822.5:678.5

ACC NR: AP7003845

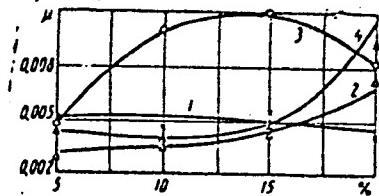


Fig. 1. Effect of filler in AST-T plastic on friction coefficient μ :
1 - talc; 2 - zinc oxide; 3 - graphite; 4 - barium sulfate

Orig. art. has: 5 graphs and 1 diagram.

SUB CODE: 1311 / SUBM DATE: none / ORIG REF: 004

Card 2/2

TVERDOKHLEBOV, V.I.; TRETENKO, M.Ye.

Measurement of the free electron temperature in a rarefied acetylene-air
flame. Zhur. tekhn. fiz. 35 no.6:1044-1046 Je '65. (MIRA 18:7)

1. Dnepropetrovskiy gornyy institut imeni Artyoma.

TVERDOXHLEB, V.I.

Improving the quality of first-aid kits for collective farms,
Apt. delo 3 no.4:43 Jl-Ag '54. (MLRA 7:8)
(PHARMACY,

*in Russia, in collective farms)
(RURAL CONDITIONS,

*in Russia, pharmacies in collective farms)

TVERDOKHLEB, V.I., provizor; LUKASH, L.P., provizor (Sumskaya oblast')

Considerations on education of pharmacists. Apt.delo 3 no.3:29-30
My-Je '54. (MLRA 7:6)

1. Upravlyayushchiy aptekoy No.21 (for Tverdokhlebov) 2. Upravlyayushchaya aptekoy No.79 (for Lukash)
(PHARMACY, education,
*Russia)

ANDREYEV, G.V.; TVERDOKHLEB, Ye.I.

Concerning Iu.M.Scheinmann, F.R.Apel'tsin, E.A.Nechaeva's book
"Alkali intrusions, their distribution and mineralization
connected with them." Izv. AN SSSR. Ser. geol. 29 no. 2:
108-109 F '64. (MIRA 17:5)

The mechanical deterioration of sugar crystals. Iudimman and Tverdokhlebov. Sovet Sakkhar 1935, No. 2, p. 30-43. A study of deterioration and losses in sugar crystals during production on account of transporting mechanisms.
B. V. Shvartsberg

78

ASH-SEA METALLURGICAL LITERATURE CLASSIFICATION

TVERDOKHLEBOV, I. A., Cand Vet Sci -- (diss) "Effect of some factors on tuberculin reactions in tubercular cattle." Khar'kov, 1960. 16 pp; (Ministry of Agriculture USSR, Khar'kov Veterinary Inst); 160 copies; price not given; (KL, 52-60, 122)

"Tuberculin reactions during various stages of tuberculosis and their comparative value."

Veterinariya, Vol. 37, No. 2, 1960, p. 24

(TVERDOKHLEBOV, I. A.) - Veterinarnyy vrach.

TVERDOKHLEBOV, I.A., veterinarnyy vrach (Poltava)

Reaction to tuberculin in pregnant cows. Veterinariia 36 no.9:21-23
S '59. (MIRA 12:12)
(Tuberculosis in animals)

TVERDOKHLEBOV, I. A., Vet.
Poltava Agricultural Inst.

"Turpentine-therapy in contagious catarrh of the top respiratory
tracts of horses."

SO: Veterinariya 27(12), 1950, p. 20

RAFIKOV, S.R.; PAVLOVA, S.A.; TVERDOKHLEBOVA, I.I.

Effect of the structure of polymers. Part 2: Use of precision ebullioscopy in the determination of the molecular weight of polyaluminum organic siloxanes. Vysokom. soed. 1 no.3:400-403
Mr '59. (MIRA 12:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Molecular weights) (Siloxanes)

Prevention of scale formation on heating surfaces.
Fridman and Tyurdukhliebov. *Trudy Zavodskikh Grupp-*
rka. Lab. Sakharnikh Zavodov No. 2, 70-1 (1935).
Addn. of 50-100 kg. of Hydrol per 100 tons of beets to the
filtered juices after the 2nd carbonation reduces 60-70%
of the scale formation in the quadruple effects. V. E. B.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION

SEARCHED

INDEXED

SERIALIZED

FILED

SEARCHED

INDEXED

SERIALIZED

FILED

SKIRGELLO, O.B., inzh.; TVERDOKHLEBOV, I.P., inzh.

Experiment in the lowering of a deep ground-water level.
Shakht.stroi. 6 no.1:21-24 Ja '62. (MIRA 14:12)

1. ТәNIIgorosusheniye,
(Mine drainage)

ZELINSKIY, Vyacheslav Mikhaylovich, kand. tekhn. nauk; SLOBODKIN, Dmitriy Savvich, kand. tekhn. nauk; TARAN, Arseniy Grigor'yevich, inzh.; TVERDOKHLEBOV, Ivan Panteleyevich, inzh.; ZHUK, Boris Vasil'yevich, inzh.; HEBENIN, M.Ye., inzh., retsenzent; CHUMACHENKO, T.I., red.izd-va; BEREZOVYY, V.N., tekhn. red.

[Control of mine waters] Bor'ba s shakhtrymi vodami. [By] V.M.Zelinskii i dr. Kiev, Gostekhizdat USSR, 1963. 360 p.
(MIRA 17:3)

TVERDOKHLEBOV, I. T.

TVERDOKHLEBOV, I. T. - "Slovakia (Economic Geography Characteristics)." Sub 4 Apr 52, Inst of Geography, Acad Sci USSR. (Dissertation for the Degree of Candidate in Geological and Mineralogical Sciences).

SO: Vechernaya Moskva January-December 1952

TVERDOKHLEBOV, I.T.

Development and distribution of industry in the Crimea. Izv.
Krym. otd. Geog. ob-va no.5:199-223 '58. (MIRA 14:9)
(Crimea--Industries)

TVERDOKHLEBOV, I.T.

Solving the Czechoslovakian national problem in the Marxist-Leninist way and liquidating the economic lag of the Slovak people.
Izv. Krym. otd. Geog. ob-vä no.5:257-270 '58. (MIRA 14:9)
(Czechoslovakia--Nationalities) (Slovakia--Economic conditions)

TVERDOKHLEBOV, I.T.

Geography of the Slovakian population. Izv.Krym.otd.Geog.ob-va
no.4:85-98 '57. (MIRA 14:8)
(Slovakia--Population)

LAPKO, Mikhail Vladimirovich; RUFIN, Valentin Andreyevich; TVERDOKHLEBOV,
Ivan Trofimovich [Tverdokhliebov, I.T.]; KIR'YAKOV, IU.F., red.;
LEBEDEV, I.P. [Lebediev, I.P.], red.kart; GORBUNOVA, N.M.
[Horbunova, N.M.], tekhn. red.

[Crimean Province; geographical study] Kryms'ka oblast'; geo-
grafichnyi narys. Kyiv, Derzh. uchbovo-pedagog. vyd-vo
"Radians'ka shkola," 1961. 138 p. (MIRA 15:4)
(Crimea--Geography)

KHOMCHUK, G.A.; TVERDOKHLEBOV, L.S.

Sugar losses resulting from decomposition and caramelization during heating. Sakh. prom. 32 no.11:19-21 N '58. (MIRA 11:12)

1. Stalinskaya gruppevaya laboratoriya.
(Sugar manufacture)

KAGANOV, I.N.; TVERDOKHLEBOV, L.S.

Value of the coefficient of saturation. Sakh.prom. 33 no.3:
15-16 Mr '59.
(MIRA 12:4)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyslen-
nosti (for Kaganov). 2. Stalinskaya gruppovaya laboratoriya
(for Tverdokhlebov).
(Sugar manufacture)

TVARDOKHLEBOV, L.S.; KAGANOV, I.N.

Rate of exhaustion of concentrated feed molasses. Sakh. prom.
32 no. 7:20-22 Jy '58. (MIRA 11:8)

1. Stalinskaya gruppovaya laboratoriya (for Tverdokhlebov).
2. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti
(for Kaganov).

(Sugar manufacture)
(Molasses)

Tverdokhlebov, L.S.
KAGANOV, I.N.; TVERDOKHLEBOV, L.S.

Exhaustion of feed molasses with an increase in its concentration.
Sakh. prom. 32 no.2:22-25 F '58. (MIRA 11:3)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti
(for Kaganov). 2. Stalinskaya gruppovaya laboratoriya (for
Tverdokhlebov).
(Molasses) (Sugar manufacture)

TVERDOKHLEBOV, L.S.;CHIBISOVA, O.S.

Variations in quality of normal molasses during the production
season. Sakh.prom. 32 no.9:4-9 S '58. (MIRA 11:11)

1. Stalinskaya gruppovaya laboratoriya.
(Molasses)

TVERDOKHLEBOV, L.S.

Decomposition of sugar by micro-organisms during diffusion. Sakh.
prom. 30 no.10:19-22 O '56. (MLRA 10:1)

1. Sakharnyy zavod imeni Stalina.
(Micro-organisms) (Sugar)

KAGANOV, I.N.; TVERDOKHLEBOV, L.S.

Coefficient of saturation. Sakh.prom.30 no.3:53-54 Mr '56.
(MIRA 9:7)

1.MTIPP (for Kaganov).2.Stalinskaya gruppevaya laboratoriya
(for Tverdekhllebov).
(Sugar--Analysis and testing)

TVERDOKHLEBOV, L.S.

Improvement of accounting and control of production. Sakh.prom. 29
no.126-28. '55. (MIRA 8:4)

1. Sakharnyy zavod im. Stalina.
(Sugar industry)

TVERDOKHLEBOV, L. S.

Q.A. V-48
Jan 10, 1954
Sugar, Starch
and Gums

The rate of mixing of low-grade masscuites in crystallizers. L. S. Tverdokhlebov. *Sakhar naya Prom.* 27, No. 2, 10-18(1953). No. of r.p.m. in crystallizers can be decreased to 0.36 with other conditions the same. This will result in better exhaustion of the mother liquor. This will permit boiling of low-grade masscuites to a higher Brix.

V. E. Baikow

1. *2.*

The coefficient of saturation, I. N. Kaganov and L. S. Tverdokhlebov, *Sakharovaya Prom.* 30, No. 3, 53-4 (1900).
A discussion in which it is shown that the coeff. of satn. is equal to one when the ratio of nonsugars to water equals 1.32. V. E. Baikow

TVEF DACHELRCV, . . .

British Abst.

B III

Aug. 1953

Sugar, Starch, and Gum Industries

✓ Rate of stirring massecuite in crystallisers. L. S. Tverdochlebov
(*Sukhar. Prom.*, 1953, No. 2, 16--18; *Sug. Tbil. Akad.*, 1953, 15,
75).--Factory results confirm the expectation that a reduction in
the speed of rotation of the stirrers would improve the crystal
yield, since more viscous solutions could be used with less damage
to the crystals. At two factories a reduction of the rate from
0.75--1.0 to 0.36 r.p.m. gave improved yields without attendant
disadvantages.

P. S. ARUP

TVERDOKHLEBOV, L. S.

USSR (600)

Sugar Machinery

Quality of apparatus from the Kiev factory of the Main Administration of Food Industry Machinery Production. Sakh prom. No. 7 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1951, Uncl.
2

TVERDOKHLEBOV, L.S.

Determination of the crystallization time of last carbonation
massecuites. Sakh.prom. 35 no.4:31-32 Ap '61. (MIRA 14:3)

1. Krasnodarskiy tekhnologicheskiy institut pishchевой
promyshlennosti.

(Sugar manufacture)

}

TVERDOKHLEBOV, L. S.

USSR (600)

Sugar Industry

Simplified formulae for calculating yield coefficient of white sugar and conditional feed molasses from production products. Sakh. prom. 26 no. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Uncl.

2

TVERDOKHLEBOV, L.S.

The rate of mixing of low-grade massecuites in crystallizers. Sakharnaya
Prom. 27, No.2, 16-18 '53.
(CA 48 no.1:393 '54) (MLRA 6:2)

TVERDOKHLEBOV, L.S.

Conversion of the actual sugar content of feed molasses
into the sugar content of normal molasses. Sakh.prom.
34 no.8:9-10 Ag '60. (MIRA 13:8)

1. Lokhvitskaya gruppovala laboratoriya.
(Sugar) (Molasses)

TVERDOKHLEROV, L. S.

Sugar Industry

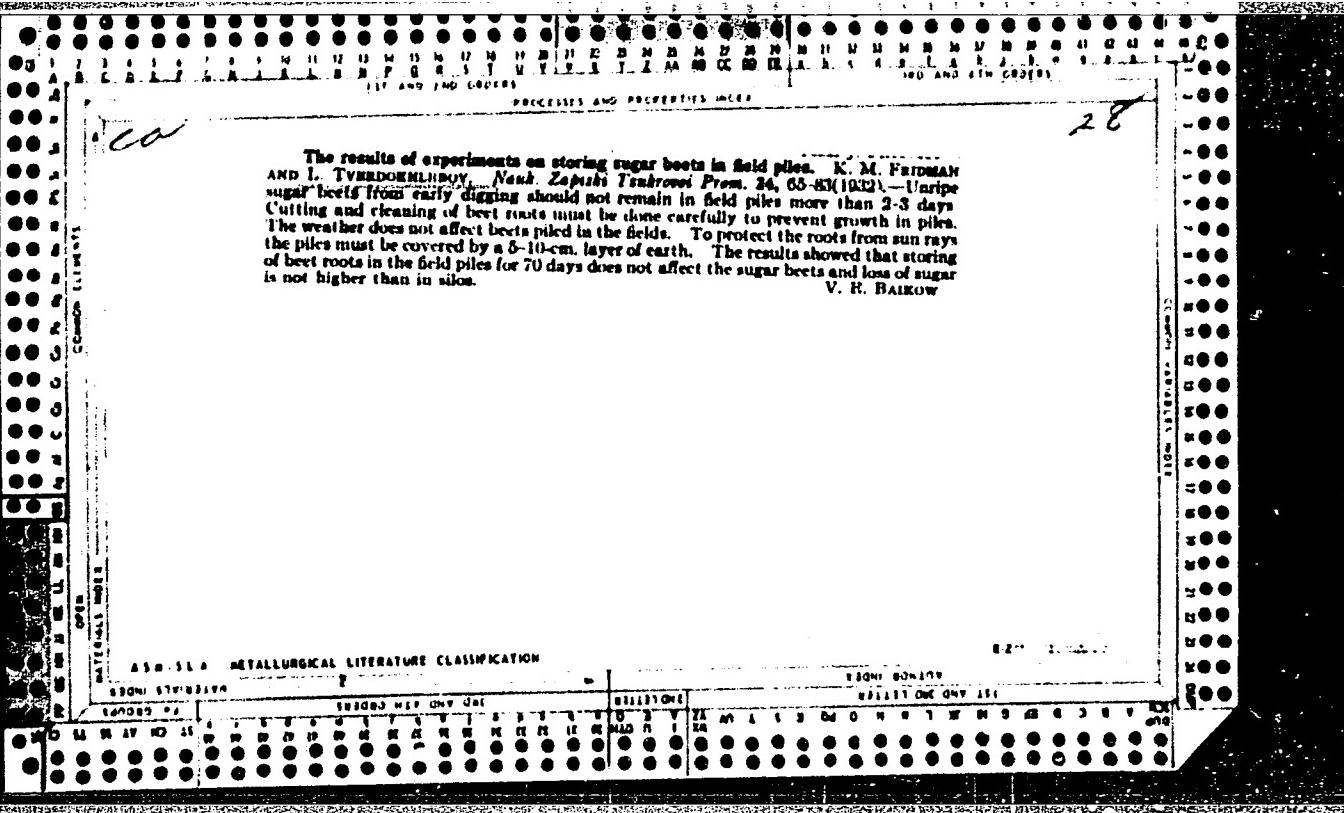
Rate of motion of fillmass in crystallizers, Sakh. prom. 27, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Unclassified.

TVERDOKHLEBOV, P.N.

Raise the role of a foreman. Mashinostroitel' no.5:41 My '60.
(MIRA 14:5)

1. Master avtoremontnogo tsekha Cherkesskogo zavoda kholodil'nogo
oborudovaniya.
(Factory management)



TVERDOKHLEBOV, S.P., Gvardii podpolkovnik meditsinskoy sluzhby

Organization of preflight medical control of flying personnel.
Voen.-med.zhur. no.4:72-73 Ap '60. (MIRA 14:1)
(FLIGHT CREWS—DISEASES AND HYGIENE)

GORBAN', D.Y.; TVERSKOI N.D.

Increasing the Yield of bleached sugar. Sakh.prom. 31 no.7:20-23
J1 '57. (MLRA 10:8)

1. Sakharnyy zavod imeni Stalina.
(Sugar industry)

BC

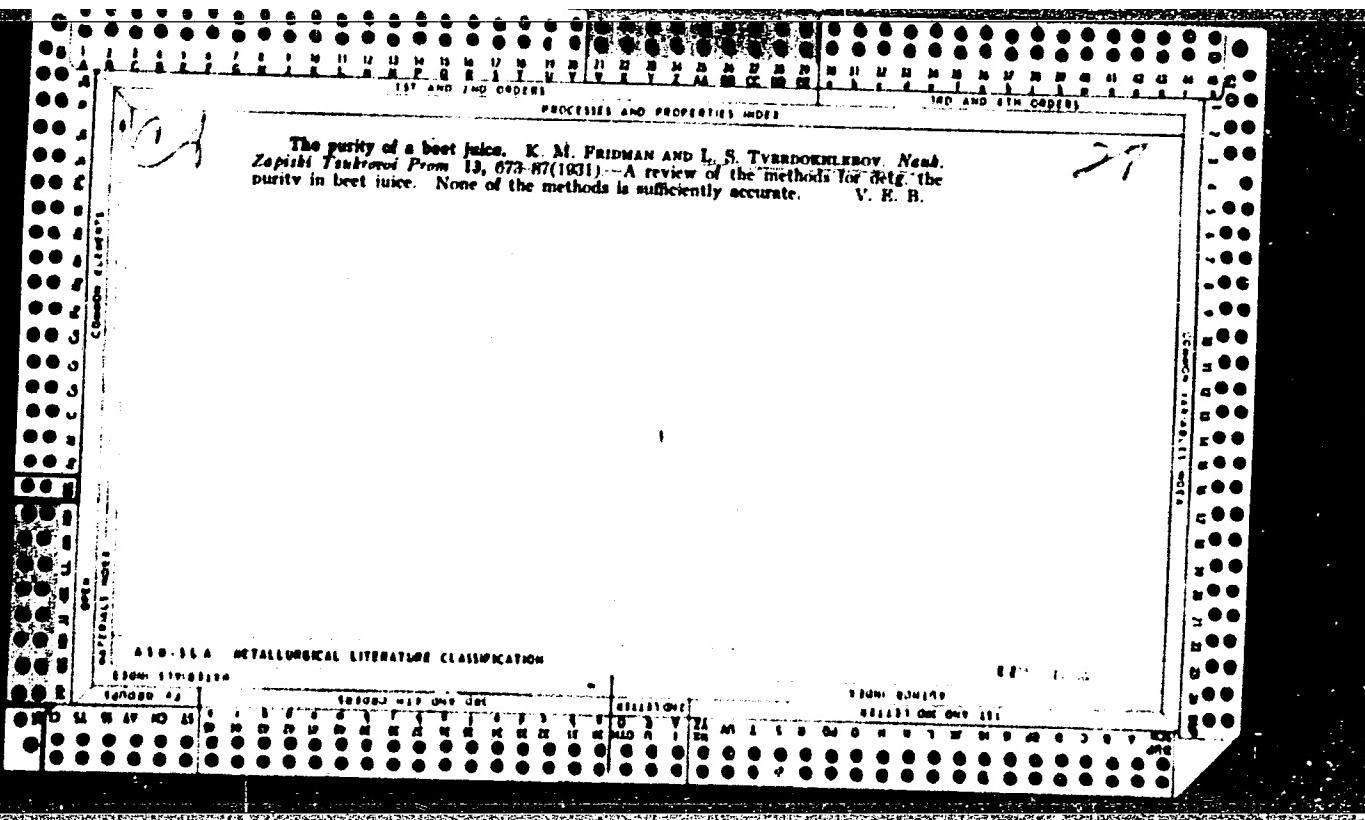
B-III-2

Starting sugar beets in field piles. K. M. FRIDMAN
and L. TVERDOKHLEBOV (Nauk. Zapiski Trak. Prom.,
1932, 24, 66-83).—Untripe sugar beets from early
digging should not remain in field piles for > 2-3 days;
they should be covered with 5-10 cm. of earth. The
loss of sugar in 70 days is > in alots. Cn. Am.

100.3A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1"



Determination of sugar losses at the diffusion battery. K. M. FRIEDMAN AND L. S. TVERDOKHLEBOV. Neft. Zapiski Trubnovo Prom. 12, 376-81(1931) —The authors found that the most accurate method for detg. losses of sugar in pulps is the Scheibler-Soschlet in which alc. extra is used. Digestion with hot water gives much higher results which are due to the pectin substances extd. The method in which the juice is pressed from mashed pulp gives the closest results to the Soxhlet method, when the amt. of juice in pulp is considered as 90%. Two methods for detg. the sugar in diffusion water, i. e., direct polarization and polarization of concd. water, give very close results. V. B. B.

28

ABR-SEA METALLURGICAL LITERATURE CLASSIFICATION

~~TVERDOKHLEBOV, S.V., mayor meditsinskoy sluzhby.~~

~~Japanese drugs seized during the war. Farm.i toks.10 no.2:59-61
Mr-Ap '47.~~
(MIRA 7:2)

1. Iz mediko-sanitarnogo otdela Tikhookeanskogo flota.
(Japan--Drugs) (Drugs--Japan)

S/177/60/000/004/002/003
B004/B064

AUTHOR: Tverdokhlebov, S. P., Lieutenant-colonel of the Guard,
~~-Surgeon~~

TITLE: Organization of Preflight Medical Checkup of Airplane Crews

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1960, No. 4, pp. 72-73

TEXT: The author states that a number of pilots, when jointly questioned about their state of health, were reluctant to speak frankly. Therefore, checkup rooms were specially equipped for ambulatory examination in which each pilot is individually examined. The preflight checkup begins in the mess-room where the surgeon studies the appetite and behavior of the pilots. In the examination room, the emotional state of the pilot, his integument, and the visible mucosae are examined, the pulse is checked and the pilot subjected to an examination in the Romberg position. The results are entered in a so-called preflight log. After the flight, the pilot has to undergo an examination of the same kind. A comparison of the results obtained before and after the flight decides whether the pilot is admitted to the next flight. On the basis of the preflight

✓
Card 1/2

Organization of Preflight Medical Checkup
of Airplane Crews

S/177/60/000/004/002/003
B004/B064

checkup, 0.8% of the pilots were found to be unfit. Fifty percent of these pilots suffered from diagnosed indispositions, one-third complained of their state of health spontaneously, the rest had simply disregarded preflight regulations. These control measures help the medical officer to prevent flight accidents.

SUBMITTED: November 1959

✓

Card 2/2

TVERDOKHLEBOV, V.A.

On the large banklike upheaval in the eastern part of the Irkutsk amphitheater. Dokl. AN SSSR 136 no. 3:693-695 Ja '61. (MIRA 14:2)

1. Vostochno-Sibirski geologicheskiy institut Sibirsogo otdeleniya Akademii nauk SSSR. Predstavлено akademikom N.M. Strakhovym.
(Baikal Lake region—Geology, Structural)

ODINTSOV, M.M.; TVERDOKHLEBOV, V.A.; VLADIMIROV, B.M.; IL'YUKHINA, A.V.;
KOLESNIKOVA, T.P.; KONEV, A.A.; GALUSHKO, Ya.A., red.izd-va;
RYLINA, Yu.V., tekhn.red.

[Structure, volcanism, and diamond potential of the Irkutsk
amphitheater] Struktura, vulkanizm i al'mazonosnost' Irkutskogo
amfiteatra. Moskva, Izd-vo Akad.nauk SSSR, 1962. 176 p.
(Akademija nauk SSSR. Sibirskoe otделение. Vostochno-Sibir'skii
geologicheskii institut. Trudy, no.4). (MIRA 16:2)
(Irkutsk Province—Geology, Structural)
(Irkutsk Province—Diamonds)

TVERDOKHLEBOV, V.A.

Preglacial direction of the discharge of the Indigirka River.
Izv. AN SSSR. Ser. geog. no.5:119-126 S-0 '62. (MIRA 15:10)

1. Vostochno-Sibirskiy geologicheskiy institut Sibirskego
otdeleniya AN SSSR.
(Indigirka River--Hydrology)

TVERDOKHLEBOV, V. I.

The growth of carbon dendrites in flames. I. S. Zaitsev and V. I. Tverdokhlebov. *Zhur. Tekhnicheskaya Kemiya*, No. 12, p. 13, 1955. An arc has struck between a cathode and an anode made of C₆₀H₅₀ and a carbon electrode of the same. The growth of dendrites was observed at the anode. The size of the dendrite field was 9 mm. The growth of the dendrites in the anodic temperature region was observed between the cooled area, where the C particles are formed, and the hot areas close to the anode. There is a sharp increase in the concentration of pos. and neg. ions, resp.⁺. The presence of traces of alkali salts in the arc prevents the formation of dendrites.

Werner Jacobson

Ionization in hydrocarbon flames. V. I. Tverdohlibov.

(Mining Inst. Dneprosvork). Discussion
S.S.R.S.-103, 1049-64(1956). The argument between a
thermal and a chem. ionization in hydrocarbon flames is
discussed and the reasons given for preferring the thermal
ionization. The C particles in the flames are composed of
minute graphite crystals for which a metallic behavior is
claimed. The analytical treatment of the problem is based
on a diffusional elimination of the emitted electrons, and a
formula is derived permitting the computation of the electron
concn. in the flame, which agrees with the experimentally
detd. concn.

W. M. Sternberg

Spud 2024

TVERDOKHLEBOV, V.I.

112-2-2643 D

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 2,
p. 5 (USSR)

AUTHOR: Tverdokhlebov, V.I.

TITLE: Some [Results of] Theoretical Research on the Electrical
Properties of a Flame (Nekotoryye teoreticheskiye
issledovaniya elektricheskikh svoystv plameni).

ABSTRACT: Bibliographic entry on the author's dissertation for the
degree of Candidate in Physics and Mathematics, presented
to the University of Dnepropetrovsk, (Dnepropetrovsk un-t)
Dnepropetrovsk, 1956.

ASSOCIATION: The University of Dnepropetrovsk (Dnepropetrovsk un-t)

Card 1/1

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1"

Tverdokh Leboy, V.I.

*✓ Probe investigation of a rarefied flame. V. I. Tverdokh
Leboy. (Mining Inst. Dneprostroy). Zhar. Akad. Nauk SSSR
Ser. Fiz. 30, 252-5(1950). The elec. properties of an
C₂H₂ (7%) air flame at 30-50 mm. pressure were investi-
gated by a probe method. The results are interpreted
by the following mechanism: In the bright green "reaction"
zone pos. and neg. ions are formed by the reaction M +
O₂⁺ → M⁺ + OH⁻ (M = hydrocarbon mol. or a radical)
OH⁻ reacts according to M₁ + OH⁻ → M₁OH⁻ → M₁OH +
e, forming a free electron; the pos. ions polymerize, forming
particles 100-500 Å. large.* S. Pakshas

AUTHOR: TVERDOKHLEBOV, V.I.
TITLE: Connection between Electronic Temperature Determination by Means of PA - 2603
the LANGMUIR Method of Probe Characteristic and the Method of Two
Probes. (Svyaz' v opredelenii elektronnoy temperatury mezhdu
metodom zondovykh kharakteristik Lengmuira i metodom dvukh sondov,
Russian)
PERIODICAL: Zhurnal Tekhn.Fiz. 1957, Vol 27, Nr 4, pp 753-755 (U.S.S.R.)
Received: 5 / 1957 Reviewed: 7 / 1957
ABSTRACT: The electron temperature may be computed by the method of LANGMUIR
and MOTT-SMITH as well as by the method of Two Probes. For both
cases a common formula is derived. A formula is found for the de-
termination of the electron temperature from which results the
formula found by LANGMUIR and MOTT-SMITH for the determination of
the electron temperature and the formula for the determination of
the electron temperature for the case of the Two Probes method. Two
further formulae were derived, viz. for the determination of elec-
tron temperature for the case of unsymmetric branches of the probe
characteristics in the Two-Probe method. (3 Citations from Slav Publi-
cations).
ASSOCIATION: Dnepropetrowsk Mining Institute Artem, Dnepropetrowsk
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress
Card 1/1

21029

S/058/61/000/005/041/050
A001/A101

26.2531

AUTHOR: Tverdokhlebov, V.I.

TITLE: Distribution of electrical field between plane-parallel plates placed in an ionized gas

PERIODICAL: Referativnyy zhurnal, Fizika, no 5, 1961, 331, abstract 5Zh81 ("Nauchn. zap. Dnepropetr. un-t", 1957, v 72, 37 - 40)

TEXT: The author presents the solution of J. Tompson's problem on ionized gas between electrodes. Not only positive and negative ions are taken into account but also electrons. If the current is far from being saturated, the space between the electrodes can be divided into the following regions: anode, central and cathode region. The integration of Poisson equations and balance of charged particles shows that field intensity and potential at the cathode are always higher than at the anode. Electron losses due to formation of negative ions may lead to a considerable change of the field.

S. Shushurin

[Abstracter's note: Complete translation.]

Card 1/1

24(6)

AUTHOR:

Tverdokhlebov, V. I.

SOV/57-58-12-15/15

TITLE:

Answer to S. D. Wagner's Letter (Otvet S. D. Vagneru)

PERIODICAL:

Zhurnal tekhnicheskoy fiziki, 1958, Nr 12, pp 2740-2741 (USSR)

ABSTRACT:

This is a reply to the letter by S. D. Wagner. The first objection is correct, the second one is based on an error and considering Wagner's objection formula (7) is re-written as (10)(viz. concerning the derivation of formula (7) from formula (6)). There is 1 reference.

ASSOCIATION: Dnepropetrovskiy gornyy institut (Dnepropetrovsk Mining Institute)

SUBMITTED: October 23, 1957

Card 1/1

USCOMM-DC-60905

L 18334-63

BDS, EWT(1)/ES(w) 2 AFFTC/ASD . DT 13/137/62 127 123
ESD-3/IJP/C, ASD Pat 4

AUTHOR: Nesterko, N. A., Rossikhin, V. S., Tverdokhlebov, I. 68

TITLE: Investigation of flame ionization by the electrode method

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, No. 4, 1963, 940-942

TEXT: The Thompson electrode method can give much useful data when investigating the ionization of flames; however, any interpretation of experimental data should be made with great caution because of the complexity of the processes which occur in the flame and especially near electrodes. Particular criticism is directed at A. A. Arshinov and I. M. Vostrikov for shortcomings in their work on the electrode method. The most important English-language references read as follows: P. E. Boucher, Phys. Rev., 31, 833, 1928, H. E. Banta, Phys. Rev., 33, 211, 1929, H. E. Wilson, Rev. Mod. Phys., 3, 156, 1931.

ASSOCIATION: Gosudarstvennyy Dnepropetrovskiy universitet imeni 300-letiya vos-soyedineniya Ukrayiny s Rossiyej i Dnepropetrovskiy Gornyy institut imeni Artema (State Dnepropetrovsk University imeni the 300th Anniversary of the Reunion of the Ukraine with Russia and the Dnepropetrovsk Mining Institute imeni Artem)

SUBMITTED: December 22, 1961
Card 1/1

NESTERKO, N.A.; ROSSIKHIN, V.S.; TVERDOKHLEBOV, V.I.

Study of flame ionization by the electrode method. Zhur. fiz.
khim. 37 no.4:940-942 Ap '63. (MIRA 17:7)

1. Gosudarstvennyy Dnepropetrovskiy universitet imeni 300-letiya
vostochedineniya Ukrayiny s Rossiyey i Dnepropetrovskiy gornyy
institut im. Artyoma.

KIRILLOV, V.A.; TVERDOKHLEBOV, V.I.; KHOMENKO, V.I.

Demonstration experiment using a zone plate. Usp. fiz. nauk
82 no.1:166-167 Ja'64.
(MIRA 17:2)

MAKSIMENKO, A.P.; TVERDOKHLEBOV, V.I.

Work function of electrons from the surface of small-size particles.
Izv. vys. ucheb. zav.; fiz. no.1:84-87 '64. (MIRA 17:3)

1. Dnepropetrovskiy gosudarstvennyy universitet i Dnepropetrovskiy
gornyy institut imeni Artyoma.

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1"

"APPROVED FOR RELEASE: 04/03/2001

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APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1"

L 00645-67 EWT(C)/EWT(G)/TWE(CC)/FTI LJP(G) AT/WW/IE/BW/JG

ACC NR: AP6014060 SOURCE CODE: UR/0294/66/004/002/0160/0165

AUTHOR: Taran, E. N.; Tverdokhlebov, V. I.

ORG: Dnepropetrovsk Mining Institute im. Artem (Dnepropetrovskiy gornyy institut)

TITLE: Some electrical characteristics of rarefied acetylene-air flame with an admixture of alkali metals

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 160-165

TOPIC TAGS: magnetohydrodynamics, free electron, flame temperature, flame, acetylene, electron temperature, flame structure, recombination coefficient

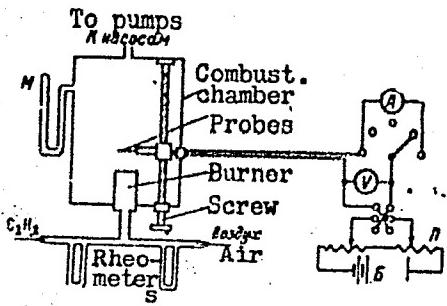
ABSTRACT: Information on the temperature of free electrons in hydrocarbon flames has been contradictory (cf. H. F. Calcote, 9th Internat. Symp. Combustion, Acad. Press, 622, 1963; B. E. L. Travers et al., Nature, 200, 351, 1963). Very little information has been available on free-electron temperatures in salt-containing flames. Hence, the authors have investigated the free-electron temperatures in rarefied acetylene-air flames to which CsCl, Cs₂CO₃, K₂CO₃, Na₂CO₃ salts have been added; also, the positive ion concentration and the recombination coefficient have been determined. The flame electrical

Card 1/2

UDC: 536.46.536.566.537.568

L 00645-67

ACC NR: AP6014060



Flame-test outfit

parameters were measured (see figure) by a method of two probes (stainless steel, 0.4-mm diameter, 33-mm long). The free-electron temperature was determined by the F. O. Johnson et al. logarithmic method (Phys. Rev., v. 80, 58, 1950). In the luminous zone of the pure flame, the free-electron temperature was found to be slightly higher than the flame temperature. Introduction of the above salts appreciably reduced both temperatures and increased the concentration of positive ions.

The recombination coefficient for the pure flame was estimated to be $\alpha = 0.5 \times 10^{-7} \text{ cm}^3/\text{sec}$; measured by the saturation-current method, it was $\alpha = 2 \times 10^{-7} \text{ cm}^3/\text{sec}$. The recombination coefficient appreciably decreased when the above salts were introduced into the flame. Orig. art. has: 3 figures, 8 formulas, and 4 tables.

SUB CODE: 20 / SUBM DATE: 01Mar65 / ORIG REF: 004 / OTH REF: 005

Card 2/2 hs

GOLOVNYA, V.A.; MOLODKIN, A.K.; TVERDOKHLEBOV, V.N.

Synthesis of thorium tri and "tetra" sulfites. Zhur. neorg. khim.
10 no.9:2196-2198 8 '65. (MIRA 18:10)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN
SSSR.

AUTHORS: Rode, Ye. Ya., Tverdokhlebov, V. N. SOV/78-3-10-19/35

TITLE: Thermal Dissociation of Ammonium Molybdates (Termicheskaya dissotsiatsiya molibdatov ammoniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 10, pp 2343-2346
(USSR)

ABSTRACT: The process of the thermal dissociation of several ammonium molybdates was investigated. The initial preparations were produced according to the traditional methods. The ammonium molybdates produced have the following composition:

Nr	1	2
Salt	Normal Molybdate	Paramolybdate
Composition %		
$(\text{NH}_4)_2\text{O}$	27,1	11,85
MoO_3	72,8	78,5
H_2O	-	9,6
Empirical Formula	$(\text{NH}_4)_2\text{O} \cdot \text{MoO}_3$	$(\text{NH}_4)_2\text{O} \cdot 2,35 \text{ MoO}_3 \cdot 2,35 \text{ H}_2\text{O}$
Gross Formula	$(\text{NH}_4)_2\text{MoC}_4$	$5(\text{NH}_4)_2\text{O} \cdot 12 \text{ MoO}_3 \cdot 12 \text{ H}_2\text{O}$

Card 1/4

SOV/7e-3-1C-19/35

Thermal Dissociation of Ammonium Molybdates

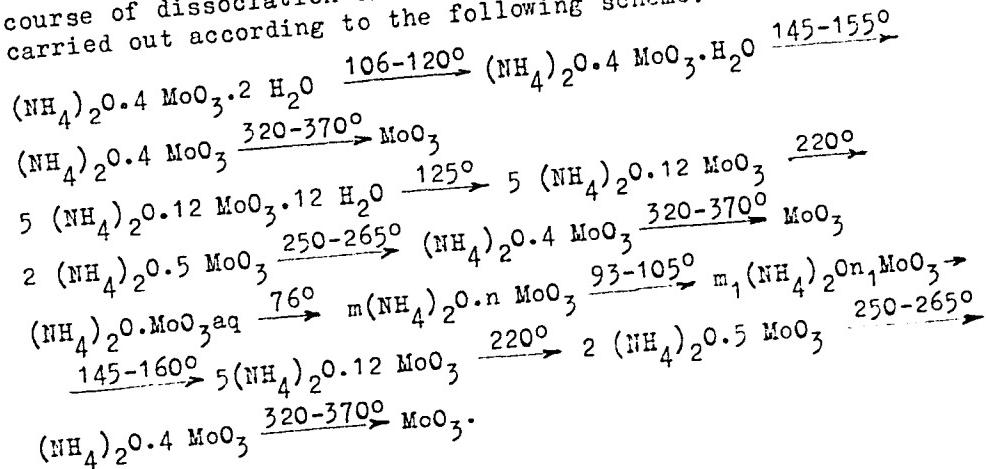
Nr	3	4
Salt	Paramolybdate	2,5-Molybdate
Composition%	(anhydrous)	
$(\text{NH}_4)_2\text{O}$	12,97	12,69
MoO_3	86,9	87,2
H_2O	-	-
Empirical Formula	$(\text{NH}_4)_2\text{O} \cdot 2,39 \text{ MoO}_3$	$(\text{NH}_4)_2\text{O} \cdot 2,48 \text{ MoO}_3$
Gross Formula	$5 (\text{NH}_4)_2\text{O} \cdot 12 \text{ MoO}_3$	$2 (\text{NH}_4)_2\text{O} \cdot 5 \text{ MoO}_3$
Nr	5	6
Salt	Metamolybdate	Metamolybdate
Composition%	(hydrinous)	(anhydrous)
$(\text{NH}_4)_2\text{O}$	7,90	8,71
MoO_3	86,65	91,4
H_2O	5,40	-
Empirical Formula	$(\text{NH}_4)_2\text{O} \cdot 4\text{MoO}_3 \cdot 2\text{H}_2\text{O}$	$(\text{NH}_4)_2\text{O} \cdot 4 \text{ MoO}_3$
Gross Formula	$(\text{NH}_4)_2\text{O} \cdot 4\text{MoO}_3 \cdot 2\text{H}_2\text{O}$	$(\text{NH}_4)_2\text{O} \cdot 4 \text{ MoO}_3$

Card 2/4

SOV/78-3-10-19/35

Thermal Dissociation of Ammonium Molybdates

The thermal dissociation of ammonium molybdates was carried out by the thermographic and thermogravimetric method, together with the chemical analysis of the intermediate products. The course of dissociation of various ammonium molybdates can be carried out according to the following scheme:



Card 3/4

SOV/78-3-10-19/35

Thermal Dissociation of Ammonium Molybdates

The thermograms of various ammonium molybdates are presented in the figures (1) and (2). Thus it is demonstrated that normal molybdates, as well as paramolybdates, lose ammonia or water at above 150°C when they are thermally treated. Above this temperature all dissociation products have the same composition. The final product of dissociated ammonium molybdates is amorphous MoO_3 that is formed at 350°C and assumes crystalline form at 400-420°C. The results obtained are different from those mentioned in references. There are 2 figures, 1 table, and 4 references, 0 of which is Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakov
Akademii nauk SSSR (Institute of General and Inorganic Chemistry
imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: May 19, 1958

Card 4/4

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1

GOLOVNYA, V.A.; MOLODJKIN, A.K.; TVERBOZHEDOV, V.N.

Thorium disulfite. Char. naury. Palz. 9 no.2:1931 Ag 1:1.
(MIRA 1:1)

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001757620020-1"

OCHEV, V.G.; SHISHKIN, M.A.; GARYAINOV, V.A.; TVERDOKHLEBOV, V.P.

New data on the stratigraphic division of the Triassic according to
vertebrates in the Ural Mountain portion of Orenburg Province. Dokl.
AN SSSR 158 no.2:363-365 S '64. (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut geologii pri Saratovskom gosudar-
stvennom universitete im. N.G.Chernyshevskogo i Paleontologicheskiy insti-
tut AN SSSR. Predstavлено академиком Yu.A.Orlovym.

FINTIKTIKOVA, R.P.; KHARMATS, R.Z.; TVERDOKHLEBOVA, A.F.

Study of the various causes of the body's reaction to a whooping cough-diphtheria vaccine in experiment. Zhur. mikrobiol. epid. i immun. 31 no. 10:24-28 O '60. (MIRA 13:12)

1. Iz Khar'kovskogo instituta vaktsin i syyoroptok imeni Mechnikova.
(WHOOPING COUGH) (DIPHTHERIA)

AUTHOR: Tverdokhlebova, I. I. (Moscow) SOV/74-27-6-5/7

TITLE: The Isopiestic Method for the Determination of the Molecular Weight of Polymers (Izopiesticcheskiy metod opredeleniya molekulyarnykh vesov polimerov)

PERIODICAL: Uspekhi khimii, 1958, Vol. 27, Nr 8, pp. 990-995 (USSR)

ABSTRACT: At present only a few theoretically and practically founded absolute methods for the determination of the molecular weights of polymers are known, none of them, however, may be called universal. The determination of the molecular weights within the interval from 1000 to 50 000 represents the difficult range of determination. In view of the great possibilities of the employment of the isopiestic method the present article gives an investigation of various varieties of this method as well as the most important experimental data. The author deals with the idea of the isopiestic method based on the investigations made by Errer. The author discusses in detail the investigations carried out by Berger as well as the method he employed. Then he discusses the publications of a number of authors (Refs 5 - 12) on the

Card 1/3

The Isopiestic Method for the Determination of the Molecular Weight of Polymers

SOV/74-27-8-5/7

varieties of the capillary filling. He makes a special reference of those by Niederl and Levy (Niederl' and Levi) (Ref 7). The papers written by Niederl and Kasanof (Kazanov, Refs 8, 12), Pavlova and Tverdokhlebova (Ref 9), R. Wright and Nieuwenburg (Nivenberg, Refs 13, 14) are also mentioned and discussed. Those papers deal with an ingenious modification of the Berger method (important increase of the rate of vapor diffusion) by which a reduction of the time required for the determination of the molecular weight of the polymer is achieved. The author discusses the Wright apparatus, the microisopiestic method according to Karl Schwarz (Shvarts, Ref 15). The Schwarz method requires the determination of the equilibrium concentrations in two solutions in the vapor phase and at constant temperature. The macro method employed by other authors is discussed in short (Refs 16, 17). Finally the author mentions the method suggested by Singer (Zinger, Ref 18) and the apparatus constructed by the latter is dealt with in detail. There are 6 figures, 3 tables, and 28 references, 1 of which is Soviet.

Card 2/3

SOV/74-27-8-5/7

The Isopiestic Method for the Determination of the Molecular Weight of Polymers

1. Polymers--Molecular weight 2. Molecular weight--Determination

Card 3/3

AUTHORS: Pavlova, S. A., Tverdokhlebova, I. I. SOV/76-32-6-19/46

TITLE: The Isopiestic Method of Determining Mean Molecular Weights
(Ob izopiyesticheskoy metode opredeleniya srednechislenного
molekulyarnogo vesa)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6,
pp. 1313 - 1318 (USSR)

ABSTRACT: At present micro- and macro-methods exist in this technique, the principle of which was for the first time proposed by Berger (Ref 1). The method by Signer (Ref 6) must be mentioned in particular. In the present study n-dibromobenzene, azobenzene and 1,2o-eicosandiol benzoate are used as standards. Some modifications of the methods applied hitherto for the purpose of precising the measuring technique were performed. Containers, a figure of which is given, and the weighing method according to MacBen were employed. The somewhat modified micro-method of determination according to Barger-Rast (Refs 2,5) was found to be the most accurate and most convenient one. The experimental technique employed is described. It appears that a mixing of the two solutions is almost impossible, thus an increase in the

Card 1/3

The Isopiestic Method of Determining Mean Molecular
Weights

SOV/76-32-6-19/46

accuracy of determination being achieved. The temperature of the thermostat must not exceed the boiling temperature of the solvent employed. The size of the drops is measured on a VSA-2 comparator with an accuracy of 1μ . Experiments were conducted to establish the degree of accuracy of the method. The results are given in a table. From it satisfactory results for substances with a molecular weight of up to 17000 may be seen. The method is applicable to molecular weights of up to 50000. Finally thanks are expressed to G.L.Slonimskiy. There are 6 figures, 6 tables, and 18 references, 0 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut elementoorganicheskikh soyedineniy,
Moskva (Moscow, Institute of Elemental-organic Compounds, AS USSR)

SUBMITTED: February 8, 1957

Card 2/3

The Isopiestic Method of Determining Mean Molecular
Weights

SOV/76-32-6-19/46

1. Molecular weight--Determination 2. Bromobenzenes--Temperature factors
3. Benzenes--Temperature factors

/ Card 3/3

PAVLOVA, S.A.; TVERDOKHLEBOVA; I.I.

Selection of a membrane for the osmotic determination of the
molecular weight of low molecular weight polyamides. Vysokom.
soed. 1 no.3:438-442 Mr '59. (MIRA 12:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Molecular weights) (Amides)

86321

53100

2209.1228. 1241

S/190/60/002/012/005/019
B017/B055

AUTHORS: Rafikov, S. R., Pavlova, S. A., Tverdokhlebova, I. I.

TITLE: Dependence of Solution Properties on Polymer Structure.
III. Investigation of Solutions of Polydimethyl SiloxanesPERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2. No. 12,
pp. 1786-1793 X

TEXT: The authors studied the solutions of polydimethyl siloxane in chloro benzene and benzene at 20, 30, and 40°C, and in isoctane at 20 and 30°C applying the method of viscous flow, light scattering, sedimentation by ultracentrifugation, and diffusion. Fractional precipitation of polydimethyl siloxane with methanol from its 3% solution in benzene at 20°C yielded six fractions, the molecular weight of which was determined by light scattering. The results are given in Table 1. The viscosity of the polydimethyl siloxane solutions in chloro benzene at 20, 30, and 40°C is represented graphically in Fig. 1. The molecular weight of polydimethyl siloxane was calculated from the relation

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86321

Dependence of Solution Properties on Polymer
Structure. III. Investigation of Solutions of
Polydimethyl Siloxanes

S/190/60/002/012/005/019
B017/B055

$$M = \frac{S \cdot R \cdot T}{D(1 - v)} \quad \checkmark$$

where S = sedimentation constant, D = diffusion coefficient, R = gas constant, T = temperature in $^{\circ}\text{K}$, v = specific partial volume of the polydimethyl siloxane and S = its density. The viscosity of polydimethyl siloxane solutions in chloro benzene, benzene and isoctane at 20, 30, and 40°C are shown graphically in Figs. 2 and 3. The viscosity of polydimethyl siloxane solutions in chloro benzene at 20 and 40°C and benzene at 20°C is a linear function of the concentration. By determining the viscosity and molecular weight, the authors obtained the constants K and a of the equation $[\eta] = KM^a$, which gives the relation between the intrinsic viscosity and the molecular weight. In Fig. 4, $\log[\eta]$ is plotted against $\log M$ for polydimethyl siloxane in chloro benzene and benzene. The dependence of $\log K$ on a , as calculated from the general formula

$$K = \frac{21}{m_0} \left(\frac{1}{2500m_0} \right)^a \quad (\text{Ref. 7})$$

is illustrated in Fig. 5. m_0 is the mean molecular weight of the polymer. The values of K and a for solutions of polydimethyl siloxane in chloro benzene and benzene at $20 - 40^{\circ}\text{C}$ are

Card 2/4

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Dependence of Solution Properties on Polymer
Structure. III. Investigation of Solutions of Polydimethyl Siloxanes

S/190/60/002/012/005/019
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listed in Table 3. The mean distance between the chain ends is described by the relation $(\bar{h}^2)^{1/2} = \alpha(\bar{h}_o^2)^{1/2}$. Fig. 6 represents the function $(\bar{h}^2)^{1/2} = f(M)^{1/2}$ for chloro benzene solutions of polydimethyl siloxane at 20, 30, and 40°C. From this it follows that the root mean square distances between the chain ends of polydimethyl siloxane in chloro benzene and benzene increase with an increase in temperature. The constant A, which designates the ratio of the hydrodynamic diffusion and viscosity radii of macromolecules, was calculated from the relation

$A = \eta_o T^{-1} D(M[\eta])^{1/3}$, where η_o is the viscosity of the solvent in poise, T the temperature in °K, D the diffusion coefficient, M the molecular weight of the polymer and $[\eta]$ the intrinsic viscosity. In the case of the chloro benzene solutions of polydimethyl siloxane, A changes little with temperature variation, i.e. by $2.27 \cdot 10^{-10}$ to $2.8 \cdot 10^{-10}$ erg/degree. The relation between the diffusion coefficient, D, and the molecular weight of the polymer, M, was calculated and expressed as $D = 1.05 \cdot 10^{-4} M^{-0.547}$.

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Dependence of Solution Properties on Polymer
Structure. III. Investigation of Solutions of
Polydimethyl Siloxanes

S/190/60/002/012/005/019
B017/B055

X

There are 6 figures, 4 tables, and 12 references: 4 Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR
(Institute of Elemental Organic Compounds of the Academy of
Sciences USSR)

SUBMITTED: May 12, 1960

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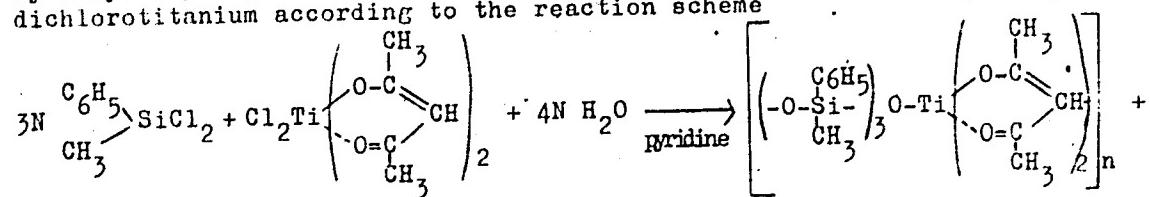
S/062/62/000/009/005/009
B119/B186

AUTHORS: Rafikov, S. R., Andrianov, K. A., Pavlova, S. A.,
Tverdokhlebova, I. I., and Pichkhadze, Sh. V.

TITLE: Study of polyorganotitanosiloxanes in solutions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 9, 1962, 1581 - 1584.

TEXT: Poly-bis-(acetyl acetonate)titanophenyl methyl siloxane was produced by cohydrolyzing methyl phenyl dichlorosilane with bis-(acetyl acetonate) dichlorotitanium according to the reaction scheme



8N HCl. The reaction product was obtained by fractional precipitation from a 20 % solution in benzene n-heptane (1:1). The individual fractions

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S/062/62/000/009/005/009

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Study of polyorganotitanosiloxanes in ...

were analysed into their elements; their molecular weight and viscosity were determined (solvent: dimethyl formamide, benzene, chlorobenzene, methyl ethyl ketone). Results: With minimum deviations, all the fractions show a relative homogeneity, and differ only in molecular weight. Maximum molecular weight found: 11,200; degree of polymerization n of this fraction = 17; characteristic viscosity (depending on the solvent used and the rate of flow through the capillary tube of the viscosimeter): 0.01 - 0.04. There are 6 figures and 1 table.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: February 17, 1962

Card 2/2

ACCESSION NR: AP4042189

S/0190/64/006/007/1275/1280

AUTHOR: Pavlova, S. A., Palkhomov, V. I., Tverdokhlebova, I. I.

TITLE: Cyclolinear polyphenylsiloxanes

SOURCE: Vy'sokomolekulyarnye soyedineniya, v. 6, no. 7, 1964, 1275-1280

TOPIC TAGS: siloxane, polyphenylsiloxane, benzene, toluene, xylene, dinil, cyclolinear polymer, phenyltrichlorosilane, infrared spectrum, polymer structure

ABSTRACT: Polyphenylsiloxanes obtained by condensation of the hydrolysis products of phenyltrichlorosilane in four solvents (benzene, toluene, xylene and dinil) were investigated by infra-red spectroscopy. All four polyphenylsiloxanes were found to have the same cyclolinear structure predicted by Brown, et al. (J. Amer. Chem. Soc., 82, 6194, 1960). The molecular weight of the polymer was 4.1×10^6 . The effect of the reaction medium on the mechanical properties, the degree of polymolecularity and the structural homogeneity of polyphenylsiloxanes was studied in detail. The four test samples were fractionated from 0.5% benzene solution with methanol at 20C. Infrared spectra were then taken for all four polymers, their thermal properties were studied and the molecular weight was determined by light diffusion. The molecular weight distribution curves are plotted. The polymers were found to be rather stable during fractionation. The infrared spectra show that the

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